

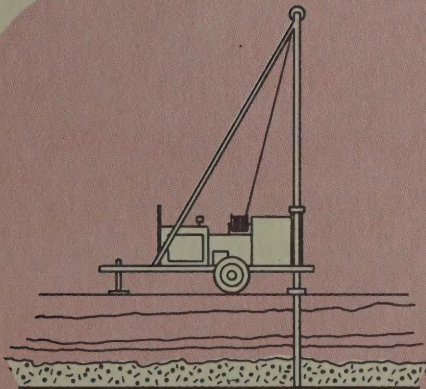
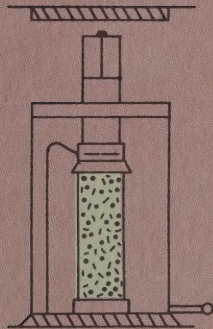
5021

STATE OF NEW YORK  
DEPARTMENT OF TRANSPORTATION

RAYMOND T. SCHULER, COMMISSIONER



SOIL MECHANICS  
BUREAU



OQUAGA STATE PARK  
TEST WELLS  
BROOME COUNTY  
OGS PROJECT NO. M-0108  
P.I.N. E101.09-701

MAY 1975





NEW YORK STATE  
DEPARTMENT OF TRANSPORTATION  
Raymond T. Schuler, Commissioner



1220 Washington Avenue, State Campus, Albany, New York 12226

May 16, 1975

Mr. Harry Stevens, Jr., Director  
Office of General Services  
Public Bldgs. Design and  
Construction Group, 34th Floor  
Empire State Plaza Tower  
Albany, New York

Attention: Mr. R. W. Wilson

Dear Mr. Stevens:

Project: Oquaga State Park  
Test Wells  
Broome County  
OGS Proj. No. M-0108  
PIN E10109.701

Subject: Transmittal of Test Well Results

In accordance with your request, this Bureau's Engineering Geology Section has completed an evaluation of four test wells progressed at the project site.

A copy of this review, contained in a memorandum from Mr. R. Brito to Mr. B. Butler, both of this Bureau, is attached.

We will be pleased to provide further assistance or review of this project, if desired.

Very truly yours,

Lyndon H. Moore, Director  
Soil Mechanics Bureau

By

Bernard E. Butler  
Bernard E. Butler  
Associate Soils Engineer

NYSDOT  
Library  
50 Wolf Road, POD 34  
Albany, New York 12232

BEB:WRB:MVM  
Attachment

cc: Mr. M. D. Graham  
Mr. J. K. Connors (2)





MEMORANDUM  
DEPARTMENT OF TRANSPORTATION

DATE April 28, 1975

SUBJECT M-0108  
TEST WELLS - OQUAGA CREEK STATE PARK, BROOME COUNTY

FROM R. Brito, Junior Engineering Geologist

TO B. Butler, Associate Soils Engineer ←

The Office of General Services requested the assistance of an Engineering Geologist to provide geologic interpretation and evaluation to Messrs. Edward Mosher, Engineer In Charge and Charles Simons, Inspector in the construction of four six inch test wells at the subject project. All of the wells were drilled ten inch oversized through overburden and ten feet into rock to facilitate grouting.

Construction of Well No. 3 commenced on November 15, 1974 and by November 17 drilling had progressed to a depth of 60 feet. Due to poor weather conditions, construction on Well No. 3 was temporarily terminated. Construction of this well resumed on December 17, 1974 and progressed to bed rock, which was encountered at a depth of 129 feet. The overburden consisted of brown till from two to 129 feet with no water present. At the interface between overburden and bed rock there was approximately two gallons per minute. Messrs. Mosher, Simon and the writer agreed to proceed into rock in an attempt to obtain the required amount of water (25 gpm) from this well. The drillers were instructed to drill ten feet into rock to a depth of 140 feet and grout the six inch casing from 130 to 140 feet. The bedrock consisted of dark gray layers of sandy shale. Small amounts of water were encountered the entire length of the well to a depth of 320 feet. A yield test was made and the yield was 24 gpm, with the air pipe at the 320 foot level. The yield was increased to 29 gpm after two hours of development with air from the rotary drilling rig. The well was disinfected and a tamper-proof cap was placed pending a pump test.

Construction of Well No. 4 began on January 8, 1975 and a depth of 122 feet was reached that day with no noticeable amounts of water encountered in the overburden. The overburden consisted of brown till from two to 122 feet, much the same as Well No. 3. At the interface between overburden and rock approximately five gpm was encountered; not enough water to satisfy well specifications. It was decided to proceed into rock to obtain the required amount of water. The six inch casing was grouted ten feet into rock to a depth of 135 feet. The bedrock consisted of layers of dark gray sandy shale to a depth of 200 feet. Most of the water was encountered at a zone between the 185-200 foot level, with a yield of 40 gpm. After developing Well No. 4 with air for two hours and increasing the yield to 45 gpm the well was disinfected and a tamper-proof cap was installed until a pump test could be performed.

On January 21, 1975 construction of Well No. 2 commenced to a depth of 112 feet at which time bedrock was encountered. The overburden consisted of brown till from two to 112 feet which contained no water. Potential yield was estimated at four gpm at the interface between overburden and bedrock and it was decided





E. Moody  
April 28, 1975  
Page Two

to progress the hole into bedrock. The casing was grouted ten feet into rock to a depth of 130 feet and the hole was advanced to a depth of 200 feet before any water was encountered (approximately one-half gpm). Varying amounts of water were encountered from 215 feet to 320 feet with the major source coming from a zone between the 260-320 foot level, approximately 20 gpm. The well was developed with air for seven hours with a final yield of 31.5 gpm, with the air pipe at the 320 foot level. The well was disinfected and a tamper-proof cap was installed, pending a pump test.

Construction of Well No. 1 commenced on January 30, 1975 and proceeded to a depth of 100 feet. The overburden consisted of a brown till two to 100 feet with some groundwater present at a zone between 10 and 15 feet. A water bearing gravel was encountered at a depth of approximately 100 feet and extended to a depth of 130 feet. The six inch drill hole was extended approximately three feet through the gravel bed and into bedrock for a seat. Samples of gravel collected every five feet, were taken to the Johnson Division, Universal Oil Products Co., Thorofare, New Jersey, for analysis. After setting a 20 foot long 80 slot size stainless steel screen (recommended by Johnson), the hole was developed with air for ten hours. The yield of this well was approximately 100 gpm with the air pipe at the 130 foot level. The annular space around the permanent casing was grouted from the ground surface to a depth of 26 feet. The well was disinfected, and a tamper-proof cap was installed until a pump test could be performed.

Special consideration should be given to pumping rates and recoveries of wells Nos. 1 and 2. When Well No. 1 was pumped, the head of Well No. 2 dropped 37 feet, and when Well No. 2 was pumped, the head of Well No. 1 dropped 12 feet. This drop in head shows that these two wells interfere. The most important factor to be considered is the rate at which these two wells recovered, approximately six days for total recovery. This recovery rate indicates to the writer that the aquifer might be of a limited nature. Consideration might be given to performing a yield test after the lake is filled as there is a possibility that the lake might provide additional recharge to these wells.

Diagrams and results of pump tests for all wells are attached. Samples of water were taken from each well at the conclusion of each pump test and submitted to the New York State Department of Health, Division of Laboratories and Research in Syracuse, New York for water quality analysis.

RB:MF







# OQUAGA CREEK STATE PARK

## PHASE II TEST WELL NUMBER 1

### CONTINUOUS YIELD TEST

Static Level prior to test - 11.5 feet below original ground surface  
 Pump Intake during test - 109.0 feet below original ground surface

<u>Date</u>	<u>Time</u>	<u>Rate (GPM)</u>	<u>Dynamic Level (Feet)</u>	<u>Drawdown (Feet)</u>	Observation Well No. 2	<u>Remarks</u>
					<u>Drawdown (Feet)</u>	
2/18/75	11:45 am	105	11.5	0	0	yield manually increased
	11:50 am	112	43.0	31.5		
	12:00 noon	112	52.0	40.5		
	12:30 pm	112	62.0	50.5	3.9	
	1:30 pm	112	71.8	60.3		
	1:45 pm	107	74.3	62.8		yield not manually decreased
	2:00 pm	107	75.3	63.8	12.0	
	3:00 pm	107	82.0	70.5		
	3:20 pm	105	83.0	71.5		yield not manually decreased
	4:20 pm	105	85.0	73.5		
	5:20 pm	105	87.0	75.5	16.5	
	6:20 pm	101	89.5	78.0		yield not manually decreased
	7:20 pm	100	92.0	80.5		not manually decreased
	8:00 pm	100	94.0	82.5		
	9:00 pm	97	96.0	84.5	24.0	yield not manually decreased
	10:00 pm	97	96.0	84.5		
	11:00 pm	97	99	87.5		





<u>Date</u>	<u>Time</u>	<u>Rate (GPM)</u>	<u>Dynamic Level (Feet)</u>	<u>Drawdown (Feet)</u>	Observation	<u>Remarks</u>
					Well No. 2 Drawdown (Feet)	
2/19/75	12:00 midnight	95	99	87.5	27.4	yield not manually decreased
	1:00 am	92	102	90.5		yield not manually decreased
	2:00 am	89	105	93.5		yield not manually decreased
	3:00 am	89	105	93.5		
	4:00 am	89	105	93.5		
	5:00 am	88	106	94.5		yield not manually decreased
	6:00 am	88	106	94.5		
	7:00 am	87	106	94.5		yield not manually decreased
	8:00 am	87	106	94.5	34.0	
	9:00 am	86	106	94.5		yield not manually decreased
	9:30 am	75	96	84.5		yield decreased manually
	10:00 am	70	95.5	84.0		yield not manually decreased
	11:00 am	70	95.0	83.5	35.1	
	11:45 am	70	95.0	83.5		
	11:45 am		END PUMP TEST			

Pump Test Well No. 1 After Additional Development

<u>Date</u>	<u>Time</u>	<u>Rate (GPM)</u>	<u>Dynamic Level (Feet)</u>	<u>Remarks</u>
2/19/75	4:45 pm	108	95	
	5:14 pm	100	97	yield manually decreased
	5:35 pm	89	97	yield manually decreased
	6:00 pm	77	93.5	yield manually decreased
	6:25 pm	77	92.5	
	7:00 pm	77	92.5	
	8:00 pm	77	92.5	
	8:45 pm	77	92.5	
	8:45 pm		END PUMP TEST	





# RECOVERY WELL NO. 1

<u>Date</u>	<u>Time</u>	<u>Static Level (Feet)</u>	<u>Residual Head (Feet)</u>	<u>Remarks</u>
2/19/75	8:47 pm	89.0	77.5	
	9:56 pm	59.0	47.5	
2/20/75	6:46 am	41.5	30.0	
	1:26 pm	35.0	23.5	
2/21/75	9:26 am	25.3	13.8	
	7:50 pm	17.5	6.0	
2/24/75	9:10 am	12.6	1.2	
2/25/75	11:00 am	11.5	0	

# RECOVERY WELL NO. 2 AFTER PUMP TEST COMPLETED ON WELL NO. 1

<u>Date</u>	<u>Time</u>	<u>Static Level (Feet)</u>	<u>Residual Drawdown (Feet)</u>	<u>Remarks</u>
2/19/75	9:00 pm	70.0	35.0	
2/20/75	6:50 am	59.9	24.5	
2/21/75	9:30 am	49.9	14.9	
2/24/75	9:15 am	38.3	3.3	
2/25/75	11:15 am	36.0	1.0	

Note (1) Erratic pumping rate is due to the turbine pump supplied by the Contractor. The nature of this pump is to slowly decrease yield of its own accord.

Note (2) Well No. 1 was re-developed on the recommendation of the drillers. The method used was to raise the water level in the casing and let it fall back into the well, developing a push-pull action, causing additional fine particles to be drawn out of the water bearing gravel and through the screen into the well. It was thought this method might increase the yield of the well.

Note (3) Well No. 1 was pumped an additional four hours at a rate of 77 gpm.





# QUAGA CREEK PARK PHASE II TEST WELL NUMBER 2

## STEP DRAWDOWN TEST

Static Level prior to pump test - 35.0 feet below ground surface  
Pump Intake during test - 310 feet below ground surface

Date	Time	Rate (GPM)	Dynamic Level (Feet)	Drawdown (Feet)	Observation Well No. 1	Remarks
					Drawdown (Feet)	
2/12/75	2:15 pm	10	35.0	0		
	2:30 pm	10	45.0	10.0		
	2:45 pm	10	45.0	10.0		Stabilized drawdown
	2:45 pm	15	-	-		Increased yield
	3:00 pm	15	56.0	21.0		Stabilized drawdown
	3:00 pm	20	-	-		Increased yield
	9:00 pm	20	78.0	43.0		Stabilized drawdown
	9:00 pm	25	-	-		Increased yield
	10:00 pm	25	87.0	52.0	1.9	Stabilized drawdown
	10:00 pm	30	-	-	-	Increased yield
2/13/75	12:00 midnight	30	101.0	66.0	4.0	Stabilized drawdown
	12:00 midnight	35	-	-	-	Increased yield
	2:30 am	35	123	88		Stabilized drawdown
	2:30 am	40	-	-	-	Increased yield
	3:30 am	40	133	98		Stabilized drawdown
	3:30 am	45	-	-	-	Increase yield
	4:30 am	-	-	-	7.1	
	5:30 am	45	173	138	-	Stabilized yield
	5:30 am	50	-	-	-	Increase yield
	7:45 am	45	241	206		Yield not manually decreased
	2:15 pm	45	240	205	11.6	Stabilized drawdown
	2:15 pm		PUMP TEST ENDS			





# OQUAGA CREEK PARK PHASE II TEST WELL NUMBER 3

## STEP DRAWDOWN TEST

Static Level prior to test - Flowing over top of casing three feet above original ground surface

Pump Intake during test - 310.0 feet below original ground surface

<u>Date</u>	<u>Time</u>	<u>Rate (GPM)</u>	<u>Dynamic Level (Feet)</u>	<u>Drawdown (Feet)</u>	<u>Remarks</u>
1/15/75	11:45 am	10	-	0	
	12:30 pm	10	22.5	25.5	Stabilized drawdown
	12:30 pm	15	-	-	Increased yield
	12:45 pm	15	22.5	25.5	Stabilized drawdown
	12:45 pm	20	-	-	Increased yield
	1:30 pm	20	45.0	48.0	Stabilized drawdown
	1:30 pm	25	-	-	Increased yield
	2:30 pm	25	76.4	79.4	Stabilized drawdown
	2:30 pm	30	-	-	Increased yield
	3:30 pm	30	118.5	121.5	Stabilized drawdown
	3:30 pm	35	-	-	Increased yield
	4:15 pm	35	160.0	163.0	Stabilized drawdown
	4:15 pm	40	-	-	Increased yield
	5:30 pm	40	219.0	222.0	Drawdown not stabilized
	6:30 pm	30	-	-	Decreased yield
	8:30 pm	30	268.0	271.0	Stabilized drawdown
	8:30 pm	32	-	-	Increased yield
1/16/75	12 midnight	32	275	278	Drawdown not stabilized
1/16/75	12 noon	32	277	280	Drawdown stabilized
	12:00 noon		END PUMP TEST		





# RECOVERY WELL NUMBER 3

<u>Date</u>	<u>Time</u>	<u>Static Level (Feet)</u>	<u>Residual Drawdown (Feet)</u>	<u>Remarks</u>
1/16/75	12:00 noon	277.0	280.0	
	12:15 pm	90.0	93.0	
	12:30 pm	7.0	10.0	
	1:00 pm	1.0	4.0	
	1:15 pm	Flowing over top of casing		0





# OQUAGA CREEK PARK PHASE II TEST WELL NUMBER 4

## STEP DRAWDOWN TEST WELL NUMBER 4

Static Level prior to test - 4.0 feet below original ground surface

Pump Intake during test - 193 feet below original ground surface

<u>Date</u>	<u>Time</u>	<u>Rate (GPM)</u>	<u>Dynamic Level (Feet)</u>	<u>Drawdown (Feet)</u>	<u>Remarks</u>
1/16/75	6:00 pm	10	4.0	0	Pump test begins
	6:30 pm	10	4.5	.5	Stabilized drawdown
	6:30 pm	15	-	-	Increased yield
	7:00 pm	15	11.0	7.0	Stabilized drawdown
	7:00 pm	20	-	-	Increased yield
	7:45 pm	20	21.0	17.0	Stabilized Drawdown
	7:45 pm	25	-	-	Increased yield
	8:45 pm	25	29.0	25.0	Stabilized drawdown
	8:45 pm	30	-	-	Increased yield
	9:45 pm	30	36.0	32.0	Stabilized drawdown
	9:45 pm	35	-	-	Increased yield
	10:45 pm	35	41.0	37.0	Stabilized drawdown
	10:45 pm	40	-	-	Increased yield
	11:45 pm	40	56.0	52.0	Stabilized drawdown
	11:45 pm	45	-	-	Increased yield
1/17/75	12:45 am	45	76.0	72.0	Stabilized drawdown
	12:45 am	50	-	-	Increase yield
	1:45 am	50	81.0	77.0	Stabilized drawdown
	1:45 am	55	-	-	Increase yield
	2:45 am	55	105.0	101.0	Stabilized drawdown





<u>Date</u>	<u>Time</u>	<u>Rate (GPM)</u>	<u>Dynamic Level (Feet)</u>	<u>Drawdown (Feet)</u>	<u>Remarks</u>
	2:45 am	60	-	-	Increased yield
	3:15 pm	60	161.0	157.0	Drawdown not stabilized
	3:15 pm	50	-	-	Decreased yield
	6:00 pm	50	156.0	152.0	Stabilized yield
	6:00 pm		END PUMP TEST		

#### RECOVERY WELL NO. 4

<u>Date</u>	<u>Time</u>	<u>Static Level (Feet)</u>	<u>Residual Drawdown (Feet)</u>	<u>Remarks</u>
1/17/75	6:10 pm	76.0	72.0	
	6:30 pm	18.5	14.5	
	6:50 pm	16.7	12.7	
	7:10 pm	15.9	11.9	

No readings taken during the night, by next morning static level 4 feet below ground surface.



Region No. 9  
County Broome  
Proj. No. M-0108  
Requesting Dept. O.G.S.  
Project Test Wells Oquaga Creek State Park Phase II

State of New York  
Dept. of Transportation  
Soil Mechanics Bureau  
TEST WELL LOG

Test Well No. 1  
Gr. Elev. 1599+  
Location N 796,300.00  
E. 204,852.00

Depth, ft.

Description

Date Start 1/30/75  
Date Finish 2/10/75  
Contractor Raymond Randolph  
Driller Paul Wehnau  
EIC Edward Mosher  
Inspector Charles Simons  
Rig Type Air Rotary

Well Data

Hole Diam. 10 in. oversized  
Final Depth 133 ft.  
Casing Diam. 6 in.  
Casing Length 113 ft.  
Casing Above Ground 1 ft.  
Screen Type 20 ft. 80 slot Johnson S.S.  
Screen Setting from 113 ft. to 131 ft.  
Gravel Pack None  
Grout from ground surface to 26 ft.

Development 10 hrs. with air in the  
water bearing gravel

Test Data

Static Depth to Water 11.5 ft.  
Pump Setting 109 ft.  
Pumping Rate 70 gpm  
Date and Duration 2/18/75 24 hrs.  
Specific Capacity .73 gpm per foot

Recommendations

Pump Setting 108 ft.  
Pumping Rate 77 gpm

Remarks \_\_\_\_\_

25

Grout

2-26 feet

50

Glacial Till (Brown)

75

2-100 feet

100

Gravel, some sand

(Water Bearing)

125

100-130 feet

Bedrock (Shale) 130 feet

150

Bottom of Drilled Well

133 Feet





Region No. 9  
County Broome  
Proj. No. M-0108  
Requesting Dept. O.G.S.  
Project Test Wells Oquaga Creek State Park Phase II

State of New York  
Dept. of Transportation  
Soil Mechanics Bureau  
TEST WELL LOG

Test Well No. 2  
Gr. Elev. 1623±  
Location N 796,322

Depth, ft.	Description	Date Start	Date Finish	Contractor	Driller	EIC	Inspector	Rig Type
40	Glacial Till (brown)	1/21/75	1/29/75	Raymond Randolph	Paul Wehna	Edward Mosher	Charles Simons	Air
80	2-112 feet	<b>Well Data</b>						
		Hole Diam.	10 in. oversized					
		Final Depth	320 ft.					
		Casing Diam.	6 in.					
		Casing Length	132 ft.					
		Casing Above Ground	2 ft.					
		Screen Type	None					
		Screen Setting	--					
		Gravel Pack	None					
		Grout	from 120 ft. to 130 ft.					
120	Rotten Rock 112-120 feet	<b>Development</b> 7 hrs. with air in the water bearing bedrock.						
	Grout 120-130 feet							
160		<b>Test Data</b>						
		Static Depth to Water	35 ft.					
		Pump Setting	310 ft.					
		Pumping Rate	45 g.p.m.					
		Date and Duration	2/12/75 24 hrs.					
		Specific Capacity	.21 gpm per foot					
200	Bedrock (dark grey sandy shale)	<b>Recommendations</b>						
	112-320 feet	Pump Setting	310 ft.					
		Pumping Rate	45 g.p.m.					
240		Remarks						
280								
320	Bottom of Drilled Well							
360								





Region No. 9  
County Broome  
Proj. No. M-0108  
Requesting Dept. \_\_\_\_\_  
Project Test wells Oquaga Creek State Park

State of New York  
Dept. of Transportation  
Soil Mechanics Bureau  
TEST WELL LOG

Test Well No. 3  
Gr. Elev. 1637+  
Location N 798.340

Depth, ft.

Description

Date Start 11/15/74  
Date Finish 1/7/75  
Contractor Raymond Randolph  
Driller Paul Wehnau  
EIC Edward Mosher  
Inspector Charles Simons  
Rig Type Air Rotary

Well Data

Hole Diam. 10 in. oversized  
Final Depth 320 ft.  
Casing Diam. 6 in.  
Casing Length 142 ft.  
Casing Above Ground 2 ft.  
Screen Type None  
Screen Setting --  
Gravel Pack None  
Grout from 130 ft. to 140 ft.

Development 2 hrs. using compressed air  
from rotary drilling rig within the  
water bearing bedrock

Test Data

Static Depth to Water Flowing over  
Pump Setting 310 ft. casing  
Pumping Rate 32 gpm  
Date and Duration 1/15/75 24 hrs.  
Specific Capacity .11 gpm per foot

Recommendations

Pump Setting 310 ft.  
Pumping Rate 32 gpm

Remarks \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

Glacial Till

(brown)

2-129 feet

Grout 130-140 feet

Bedrock

(dark gray sandy shale)

129-320 feet

Bottom of Drilled Well

320 feet



Region No. 9  
County Broome  
Proj. No. M-0108  
Requesting Dept. O.G.S.  
Project Test Wells Oquaga Creek State Park Phase II

State of New York  
Dept. of Transportation  
Soil Mechanics Bureau  
TEST WELL LOG

Test Well No. 4  
Gr. Elev. 1646+  
Location N 798,357  
E 206,266

Depth, ft.

Description

Date Start 1/8/75  
Date Finish 1/14/75  
Contractor Raymond Randolph  
Driller Paul Wehnau  
EIC Edward Mosher  
Inspector Charles Simon  
Rig Type Rotary

Well Data

Hole Diam. 10 in. oversized  
Final Depth 200 ft.  
Casing Diam. 6 in.  
Casing Length 137 ft.  
Casing Above Ground 2 ft.  
Screen Type None  
Screen Setting --  
Gravel Pack None  
Grout from 125 ft. to 135 ft.

Development 2 hrs. with air in the  
water bearing bedrock.

Test Data

Static Depth to Water 4 ft.  
Pump Setting 193 ft.  
Pumping Rate 50 g.p.m.  
Date and Duration 1/16/75 .24 hrs.  
Specific Capacity .32 per foot

Recommendations

Pump Setting 190 ft.  
Pumping Rate 50 gpm

Remarks \_\_\_\_\_

Glacial Till

(brown)

2-122 Feet

Rotten Rock 122-125 feet

Grout 125-135 feet

Bedrock

(gray sandy shale)

122-200 feet

Bottom of Drilled Well

200 feet





NEW YORK STATE DEPARTMENT OF HEALTH  
DIVISION OF LABORATORIES AND RESEARCH  
ENVIRONMENTAL HEALTH CENTER

RESULTS OF EXAMINATION  
(PAGE 1 OF 1)

LAB ACCESSION NO: 04564 YR/MO/DAY/HR SAMPLE REC'D: 75/02/20/13

REPORTING LAB: 30 SYRACUSE LAB  
PROGRAM: 120 RESIDENTIAL AND RECREATIONAL SANITATION  
STATION (SOURCE) NO:  
DRAINAGE BASIN: 06 NY GAZETTEER NO: 0361 COUNTY: BROOME  
COORDINATES: DEG ' "N, DEG ' "W  
COMMON NAME INCL SUBMITTED: OQUAGA STATE PARK ARTIC ROAD

EXACT SAMPLING POINT: WELL 1 WELL SAMPLE  
TYPE OF SAMPLE: 12 WATER, DRILLED WELL  
MO/DAY/HR OF SAMPLING: FROM 00/00 TO 02/19/12  
REPORT SENT TO: CO (0) RO (0) LPH (2) LHO (0) FED (0) CHEM (0)

PARAMETER	UNIT	RESULT	NOTATION
026800 STANDARD PLATE COUNT 48 HR		7.	
027000 COLIFORM BACT MF COL/100ML		1.	LT

SATISFACTORY AT THE  
TIME OF SAMPLING  
BROOME CO. HEALTH DEPT.

DATE COMPLETED: 2/24/75

RECEIVED

FEB 27 1975  
BROOME COUNTY  
HEALTH DEPT.

DIRECTOR OF ENVIRONMENTAL SANITATION  
BROOME COUNTY HEALTH DEPT  
68 WATER STREET  
BINGHAMTON, N.Y. 13901

SUBMITTED BY: EAM





NEW YORK STATE DEPARTMENT OF HEALTH  
DIVISION OF LABORATORIES AND RESEARCH  
ENVIRONMENTAL HEALTH CENTER

RESULTS OF EXAMINATION

(PAGE 1 OF 2)

LAB ACCESSION NO: 02227 YR/MO/DAY/HR SAMPLE REC'D: 75/02/20/13

REPORTING LAB: 33 SYRACUSE LAB  
PROGRAM: 120 RESIDENTIAL AND RECREATIONAL SANITATION  
STATION (SOURCE) NO:  
DRAINAGE BASIN: 06 NY GAZETTEER NO: 0361 COUNTY: BROOME  
COORDINATES: DEG ' "N, DEG ' "W  
COMMON NAME INCL SURVISED: AQUA ST. PK ARTIC RD

EXACT SAMPLING POINT: WELL NO1 WELLSAMPLE  
TYPE OF SAMPLE: 12 WATER, DRILLED WELL  
MO/DAY/HR OF SAMPLING: FROM 00/00 TO 02/19/12  
REPORT SENT TO: CO (1) RO (0) LPHE (2) LHO (1) FED (0) CHEM (0)

PARAMETER	UNIT	RESULT	NOTATION
000100 COLOR (APPARENT)		15.	
000200 TURBIDITY, J.T.U.		18.	
000300 ODOR, HOT		1.0044	
000501 NITROGEN, AMMONIA AS N	MG/L	0.32	LT
000709 NITROGEN, NITRITE AS N	MG/L	1.	
000801 NITROGEN, NITRATE AS N	MG/L	0.1	LT
001001 CHLORIDES	MG/L	2.2	
001101 HARDNESS, TOTAL AS $\text{CaCO}_3$	MG/L	160.	
001501 ALKALINITY, MTH OR AS $\text{CaCO}_3$	MG/L	143.	
001900 PH (LABORATORY)		7.8	
006401 NITROGEN, KJELDAHL, INCL. AMM	MG/L	0.04	LT
006501 CHEMICAL OXYGEN DEMAND	MG/L	4.	LT
010001 IRON	MG/L	1.9	

DATE COMPLETED: 2/26/75

TO: LOCAL HEALTH OFFICER

SUBMITTED BY: MOSHER



NEW YORK STATE DEPARTMENT OF HEALTH  
DIVISION OF LABORATORIES AND RESEARCH  
ENVIRONMENTAL HEALTH CENTER

RESULTS OF EXAMINATION

(PAGE 2 OF 2)

LAB ACCESSION NO: 02227 YR/MO/DAY/HR SAMPLE REC'D: 75/02/20/13

REPORTING LAB: 33 SYRACUSE LAB

PROGRAM: 120 RESIDENTIAL AND RECREATIONAL SANITATION

STATION (SOURCE) NO:

DRAINAGE BASIN: 06 NY GAZETTEER NO: 0361 COUNTY: BROOME

COORDINATES: DEG ' "N, DEG ' "W

COMMON NAME INCL SUBMITTED: OQUAGA ST. PK ARTIC RD

EXACT SAMPLING POINT: WELL NO1 WELLSAMPLE

TYPE OF SAMPLE: 12 WATER, DRILLED WELL

MO/DAY/HR OF SAMPLING: FROM 00/00 TO 02/19/12

REPORT SENT TO: CO (1) RO (0) LPHE (2) LHO (1) FED (0) CHEM (0)

PARAMETER	UNIT	RESULT	NOTATION
010201 MANGANESE	MG/L	0.02	LT
010701 SODIUM	MG/L	50.	
100300 ODOR, COLD		1.004	

DATE COMPLETED: 2/26/75

TO: LOCAL HEALTH OFFICER

SUBMITTED BY: MOSHER





NEW YORK STATE DEPARTMENT OF HEALTH  
DIVISION OF LABORATORIES AND RESEARCH  
ENVIRONMENTAL HEALTH CENTER

RESULTS OF EXAMINATION

(PAGE 1 OF 1)

LAB ACCESSION NO: 03964 YR/MO/DAY/HR SAMPLE REC'D: 75/02/13/16

REPORTING LAB: 30 SYRACUSE LAB

PROGRAM: 120 RESIDENTIAL AND RECREATIONAL SANITATION

STATION (SOURCE) NO:

DRAINAGE BASIN: 06 NY GAZETTEER NO: 0361 COUNTY: BROOME

COORDINATES: DEG ' "N. DEG ' "W

COMMON NAME INCL SUBMITTED: OQUAGA STATE PK ARTIC RD

EXACT SAMPLING POINT: WELL NO2 WELLSAMPLE

TYPE OF SAMPLE: 12 WATER, DRILLED WELL

MO/DAY/HR OF SAMPLING: FROM 00/00 TO 02/13/14

REPORT SENT TO: CO (0) RO (0) LPHE (2) LHO (0) FED (0) CHEM (0)

PARAMETER	UNIT	RESULT	NOTATION
026800	STANDARD PLATE COUNT 48 HR	3.	
027000	COLIFORM BACT MF COL/100ML	1.	LT

SATISFACTORY AT THE  
TIME OF SAMPLING  
BROOME CO. HEALTH DEPT.

*J.D.*

RECEIVED  
FEB 25 1975  
BROOME COUNTY  
HEALTH DEPT.

DATE COMPLETED: 2/18/75

DIRECTOR OF ENVIRONMENTAL SANITATION  
BROOME COUNTY HEALTH DEPT  
68 WATER STREET  
BINGHAMTON, N.Y. 13901

SUBMITTED BY: EAM



NEW YORK STATE DEPARTMENT OF HEALTH  
DIVISION OF LABORATORIES AND RESEARCH  
ENVIRONMENTAL HEALTH CENTER

RESULTS OF EXAMINATION

(PAGE 1 OF 2)

LAB ACCESSION NO: 01911 YR/MO/DAY/HR SAMPLE REC'D: 75/02/14/08

REPORTING LAB: 33 SYRACUSE LAB

PROGRAM: 120 RESIDENTIAL AND RECREATIONAL SANITATION

STATION (SOURCE) NO:

DRAINAGE BASIN: 06 NY GAZETTEER NO: 0361 COUNTY: BROOME

COORDINATES: DEG ' "N. DEG ' "W

COMMON NAME INCL SUBMITTED: OQUAGA STATE PARK, ARTIC RD.

EXACT SAMPLING POINT: WELL #2-WELL SAMPLE

TYPE OF SAMPLE: 12 WATER, DRILLED WELL

MO/DAY/HR OF SAMPLING: FROM 00/00 TO 02/13/14

REPORT SENT TO: CO (1) RO (0) LPHE (2) LHO (0) FED (0) CHEM (0)

PARAMETER	UNIT	RESULT	NOTATION
000100 COLOR (APPARENT)		1.	
000200 TURBIDITY, J.T.U.		0.5	LT
000300 ODOR, HOT		1.0044	
000501 NITROGEN, AMMONIA AS N	MG/L	0.07	
000709 NITROGEN, NITRITE AS N	MG/L	2.	
000801 NITROGEN, NITRATE AS N	MG/L	0.1	LT
001901 CHLORIDES	MG/L	8.5	
001101 HARDNESS, TOTAL AS CaCO3	MG/L	108.	
001501 ALKALINITY, MTH OR AS CaCO3	MG/L	136.	
001900 PH (LABORATORY)		8.1	
006401 NITROGEN, KJELDAHL, INCL. AMM	MG/L	0.07	
006501 CHEMICAL OXYGEN DEMAND	MG/L	4.	LT
010001 IRON	MG/L	0.02	LT

DATE COMPLETED: 2/21/75

SATISFACTORY AT THE  
TIME OF SAMPLING  
BROOME CO. HEALTH DEPT.

DIRECTOR OF ENVIRONMENTAL SANITATION  
BROOME COUNTY HEALTH DEPT  
68 WATER STREET  
BINGHAMTON, N.Y. 13901

SUBMITTED BY: MOSHER





NEW YORK STATE DEPARTMENT OF HEALTH  
DIVISION OF LABORATORIES AND RESEARCH  
ENVIRONMENTAL HEALTH CENTER

RESULTS OF EXAMINATION

(PAGE 2 OF 2)

LAB ACCESSION NO: 01911 YR/MO/DAY/HR SAMPLE REC'D: 75/02/14/08

REPORTING LAB: 33 SYRACUSE LAB

PROGRAM: 120 RESIDENTIAL AND RECREATIONAL SANITATION

STATION (SOURCE) NO:

DRAINAGE BASIN: 06 NY GAZETTEER NO: 0361 COUNTY: BROOME

COORDINATES: DEG ' "N, DEG ' "W

COMMON NAME INCL SUBVISED: OQUAGA STATE PARK, ARTIC RD.

EXACT SAMPLING POINT: WELL #2-WELL SAMPLE

TYPE OF SAMPLE: 12 WATER, DRILLED WELL

MO/DAY/HR OF SAMPLING: FROM 00/00 TO 02/13/14

REPORT SENT TO: CO (1) RO (0) LPHE (2) LHO (0) FED (0) CHEM (0)

PARAMETER	UNIT	RESULT	NOTATION
010201 MANGANESE	MG/L	0.06	
010701 SODIUM	MG/L	44.	
100300 ODOR, COLD		1.0044	

SATISFACTORY AT THE  
TIME OF SAMPLING  
BROOME CO. HEALTH DEPT.

*J. D.*

SATISFACTORY AT THE  
TIME OF SAMPLING  
BROOME CO. HEALTH DEPT.

BROOME COUNTY  
HEALTH DEPT.

RECEIVED  
FEB 26 1975

DATE COMPLETED: 2/21/75

DIRECTOR OF ENVIRONMENTAL SANITATION  
BROOME COUNTY HEALTH DEPT  
68 WATER STREET  
BINGHAMTON, N.Y. 13901

SUBMITTED BY: MOSHER



NEW YORK STATE DEPARTMENT OF HEALTH  
DIVISION OF LABORATORIES AND RESEARCH  
ENVIRONMENTAL HEALTH CENTER

RESULTS OF EXAMINATION

(PAGE 1 OF 1).

LAB ACCESSION NO: 03537 YR/MO/DAY/HR SAMPLE REC'D: 75/02/07/13

REPORTING LAB: 30 SYRACUSE LAB  
PROGRAM: 120 RESIDENTIAL AND RECREATIONAL SANITATION  
STATION (SOURCE) NO:  
DRAINAGE BASIN: 06 NY GAZETTEER NO: 0361 COUNTY: BROOME  
COORDINATES: DEG ' "N, DEG ' "W  
COMMON NAME INCL SUBMITTED: AQUAQA STATE PARK ARTIC RD

EXACT SAMPLING POINT: WELL NO 3 WELL SAMPLE  
TYPE OF SAMPLE: 12 WATER, DRILLED WELL  
MO/DAY/HR OF SAMPLING: FROM 00/00 TO 02/06/14  
REPORT SENT TO: CO (0) RD (0) LPHE (2) LHO (0) FED (0) CHEM (0)

PARAMETER	UNIT	RESULT	NOTATION
026000 STANDARD PLATE COUNT 48 HR		1.	LT
027000 COLIFORM BACT MF COL/100ML		1.	LT

SATISFACTORY AT THE  
TIME OF SAMPLING  
BROOME CO. HEALTH DEPT.

*J-D*

DATE COMPLETED: 2/10/75

DIRECTOR OF ENVIRONMENTAL SANITATION  
BROOME COUNTY HEALTH DEPT  
68 WATER STREET  
BINGHAMTON, N.Y. 13901

SUBMITTED BY: MOSHER





NEW YORK STATE DEPARTMENT OF HEALTH  
DIVISION OF LABORATORIES AND RESEARCH  
ENVIRONMENTAL HEALTH CENTER

RESULTS OF EXAMINATION

(PAGE 1 OF 2)

LAB ACCESSION NO: C1693 YR/MO/DAY/HR SAMPLE REC'D: 75/02/07/13

REPORTING LAB: 33 SYRACUSE LAB

PROGRAM: 120 RESIDENTIAL AND RECREATIONAL SANITATION

STATION (SOURCE) NO:

DRAINAGE BASIN: 06 NY GAZETTEER NO: 0361 COUNTY: BROOME

COORDINATES: DEG 1 "N, DEG 1 "W

COMMON NAME INCL SUBVISED: OQUAGE STATE PK ARTIC RD

EXACT SAMPLING POINT: WELL NO3 WELLSAMPLE

TYPE OF SAMPLE: 12 WATER, DRILLED WELL

MO/DAY/HR OF SAMPLING: FROM 00/00 TO 02/06/14

REPORT SENT TO: CO (1) RO (0) LPHE (2) LHO (0) FED (0) CHEM (0)

PARAMETER	UNIT	RESULT	NOTATION
000100 COLOR (APPARENT)		1.	
000200 TURBIDITY, J.T.U.		0.5	LT
000300 ODOR, HOT		1.0044	
000501 NITROGEN, AMMONIA AS N	MG/L	0.08	
000709 NITROGEN, NITRITE AS N	MCG/L	1.	
000801 NITROGEN, NITRATE AS N	MG/L	0.1	LT
001001 CHLORIDES	MG/L	23.	
001101 HARDNESS, TOTAL AS $\text{CaCO}_3$	MG/L	150.	
001501 ALKALINITY, MTH OR AS $\text{CaCO}_3$	MG/L	144.	
001900 PH (LABORATORY)		8.2	
006401 NITROGEN, KJELDAHL, INCL. AMM	MG/L	0.08	
006501 CHEMICAL OXYGEN DEMAND	MG/L	4.	LT
010001 IRON	MG/L	0.28	

DATE COMPLETED: 2/24/75

DIRECTOR OF ENVIRONMENTAL SANITATION  
BROOME COUNTY HEALTH DEPT  
68 WATER STREET  
BINGHAMTON, N.Y. 13901

SUBMITTED BY: EAM



NEW YORK STATE DEPARTMENT OF HEALTH  
DIVISION OF LABORATORIES AND RESEARCH  
ENVIRONMENTAL HEALTH CENTER

RESULTS OF EXAMINATION

(PAGE 2 OF 2)

LAP ACCESSION NO: 01693 YR/MO/DAY/HR SAMPLE REC'D: 75/02/07/13

REPORTING LAB: 33 SYRACUSE LAB

PROGRAM: 120 RESIDENTIAL AND RECREATIONAL SANITATION

STATION (SOURCE) NO:

DRAINAGE BASIN: 06 NY GAZETTEER NO: 0361 COUNTY: BROOME

COORDINATES: DEG ' "N, DEG ' "W

COMMON NAME INCL SURVISED: OQUAGE STATE PK ARTIC RD

EXACT SAMPLING POINT: WELL NO3 WELLSAMPLE

TYPE OF SAMPLE: 12 WATER, DRILLED WELL

MO/DAY/HR OF SAMPLING: FROM 00/00 TO 02/06/14

REPORT SENT TO: CO (1) RO (0) LPHE (2) LHO (0) FED (0) CHEM (0)

PARAMETER	UNIT	RESULT	NOTATION
010201 MANGANESE	MG/L	0.13	
010701 SODIUM	MG/L	60.	
100300 ODOR, COLD		1.0044	

SATISFACTORY AT THE  
TIME OF SAMPLING  
BROOME CO. HEALTH DEPT.

SATISFACTORY AT THE  
TIME OF SAMPLING  
BROOME CO. HEALTH DEPT.

DATE COMPLETED: 2/24/75

DIRECTOR OF ENVIRONMENTAL SANITATION  
BROOME COUNTY HEALTH DEPT  
68 WATER STREET  
BINGHAMTON, N.Y. 13901

SUBMITTED BY: EAM





NEW YORK STATE DEPARTMENT OF HEALTH  
DIVISION OF LABORATORIES AND RESEARCH  
ENVIRONMENTAL HEALTH CENTER

RESULTS OF EXAMINATION

(PAGE 1 OF 1)

LAB ACCESSION NO: 03536 YR/MO/DAY/HR SAMPLE REC'D: 75/02/07/13

REPORTING LAB: 30 SYRACUSE LAB

PROGRAM: 120 RESIDENTIAL AND RECREATIONAL SANITATION

STATION (SOURCE) NO:

DRAINAGE BASIN: 06 NY GAZETTEER NO: 0361 COUNTY: BROOME

COORDINATES: DEG ' "N, DEG ' "W

COMMON NAME INCL SURVISED: OQUAGA STATE PARK ARTIC RD

EXACT SAMPLING POINT: WELL NO 4 WELL SAMPLE

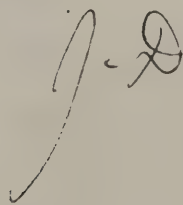
TYPE OF SAMPLE: 12 WATER, DRILLED WELL

MO/DAY/HR OF SAMPLING: FROM 00/00 TO 02/06/14

REPORT SENT TO: CO (0) PO (0) LPHE (2) LHO (0) FED (0) CHEM (0)

PARAMETER	UNIT	RESULT	NOTATION
026800 STANDARD PLATE COUNT 48 HR		1.	
027000 COLIFORM BACT MF COL/100ML		1.	LT

SATISFACTORY AT THE  
TIME OF SAMPLING  
BROOME CO. HEALTH DEPT.



DATE COMPLETED: 2/10/75

DIRECTOR OF ENVIRONMENTAL SANITATION  
BROOME COUNTY HEALTH DEPT  
68 WATER STREET  
BINGHAMTON, N.Y. 13901

SUBMITTED BY: MOSHER



NEW YORK STATE DEPARTMENT OF HEALTH  
DIVISION OF LABORATORIES AND RESEARCH  
ENVIRONMENTAL HEALTH CENTER

RESULTS OF EXAMINATION

(PAGE 1 OF 2)

LAB ACCESSION NO: 00690 YR/MO/DAY/HR SAMPLE REC'D: 75/01/20/08

REPORTING LAB: 33 SYRACUSE LAB  
PROGRAM: 120 RESIDENTIAL AND RECREATIONAL SANITATION  
STATION (SOURCE) NO:  
DRAINAGE BASIN: 06 NY GAZETTEER NO: 0361 COUNTY: BROOME  
COORDINATES: DEG ' "N, DEG ' "W  
COMMON NAME INCL SURVISED: OQUAGA STATE PARK

EXACT SAMPLING POINT: WELL 4 WELL SAMPLE  
TYPE OF SAMPLE: 12 WATER, DRILLED WELL  
MO/DAY/HR OF SAMPLING: FROM 00/00 TO 01/17/14  
REPORT SENT TO: CO (1) RO (0) LPHE (2) LHO (0) FED (0) CHEM (0)

PARAMETER	UNIT	RESULT	NOTATION
000100 COLOR (APPARENT)	BROOME COUNTY	1.	
000200 TURBIDITY, J.T.U.	JAN 28 1975	0.5	LT
000300 ODOR, HOT	RECEIVED	1.0044	
000501 NITROGEN, AMMONIA AS N	MG/L	0.05	
000709 NITROGEN, NITRITE AS N	MG/L	4.	
000801 NITROGEN, NITRATE AS N	MG/L	0.1	LT
001001 CHLORIDES	MG/L	12.	
001101 HARDNESS, TOTAL AS CaCO3	MG/L	160.	
001501 ALKALINITY, MTH OR AS CaCO3	MG/L	150.	
001900 PH (LABORATORY)		8.1	
006401 NITROGEN, KJELDAHL, INCL. AMM	MG/L	0.05	
006501 CHEMICAL OXYGEN DEMAND	MG/L	4.	LT
010001 IRON	MG/L	0.06	

DATE COMPLETED: 1/24/75

DIRECTOR OF ENVIRONMENTAL SANITATION  
BROOME COUNTY HEALTH DEPT  
68 WATER STREET  
BINGHAMTON, N.Y. 13901

SUBMITTED BY: MUSHER



18. 10. 1911

19. 10. 1911

NEW YORK STATE DEPARTMENT OF HEALTH  
DIVISION OF LABORATORIES AND RESEARCH  
ENVIRONMENTAL HEALTH CENTER

RESULTS OF EXAMINATION

(PAGE 2 OF 2)

LAB ACCESSION NO: 00690 YR/MO/DAY/HR SAMPLE REC'D: 75/01/20/08

REPORTING LAB: 33 SYRACUSE LAB

PROGRAM: 120 RESIDENTIAL AND RECREATIONAL SANITATION

STATION (SOURCE) NO:

DRAINAGE BASIN: 06 NY GAZETTEER NO: 0361 COUNTY: BROOME

COORDINATES: DEG ' "N, DEG ' "W

COMMON NAME INCL SUBMITTED: OQUAGA STATE PARK

EXACT SAMPLING POINT: WELL 4 WELL SAMPLE

TYPE OF SAMPLE: 12 WATER, DRILLED WELL

MO/DAY/HR OF SAMPLING: FROM 00/00 TO 01/17/14

REPORT SENT TO: CO (1) RO (0) LPHE (2) LHO (0) FED (0) CHEM (0)

PARAMETER	UNIT	RESULT	NOTATION
010201 MANGANESE	MG/L	0.19	
010701 SODIUM	MG/L	50.	
100300 ODOR, COLD		1.0044	

DATE COMPLETED: 1/24/75

DIRECTOR OF ENVIRONMENTAL SANITATION  
BROOME COUNTY HEALTH DEPT  
68 WATER STREET  
BINGHAMTON, N.Y. 13901

SUBMITTED BY: MOSHER









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